

Foundations for Precalculus

Course Description: This course is a companion to MAT 123: Precalculus, providing a structured environment where students can refresh the algebra skills which are necessary for success in precalculus. These topics include understanding of exponents (especially fractional and negative exponents), manipulating mathematical expressions, solving equations, and modeling/word problems. Course may not be taken with CHE 129.

Prerequisite: 2+ on placement or permission of MAT 123 instructor

Credits: 1 credit

Office Hours: Monday's 6:30-7:30pm, as well as by appointment.
I will be in the MLC Tuesday's 4:00-6:00pm

About this course: The goal of this course is to ensure that you have a proper background to take calculus at Stony Brook. This means that we will need to accomplish several things:

- Ensure that you have fluency with a variety of topics, such as trigonometry, exponentials and logarithms, algebraic functions (polynomials and rational functions).
- Ensure that you are comfortable and conversant with the underlying concepts such as functions, domain, range, inverse functions, functional composition, and so on.
- Ensure that you have mastered the various means of manipulating functional and algebraic expressions, solving basic equations, and their graphical representations.
- Be able to apply the above to problems both within and outside of mathematics. Part of this is a deeper understanding of functions, whether viewed as graphs, tables, or formulae. Fluency in understanding the language of mathematics is essential for success in the sciences or engineering.

The OpenStax textbook is called *College Algebra*. The textbook is an Open Educational Resource and is FREE. The pdf is attached in the Documents section for the course. The computer homework program is through *Lumen Learning* and is also FREE.

You will access *Lumen Learning* through Blackboard, not through their site.

Note: You may use calculators to help you with learning the material or for homework and *Lumen Learning* problems but given that you may not use a calculator on the exams, you should practice doing problems without them.

Homework: I will give assignments through *Lumen Learning*. I will provide the code and key through the Announcements section of Blackboard.

Exams: This course is designed to help you in MAT 123. There are no exams specifically for this course, below are the important dates for MAT 123.

MAT 123- Midterm I: September 24 9:00am - September 25 9:00am

MAT 123- Midterm II: October 22 9:00am - October 23 9:00am

MAT 123- Final Exam: December 10 2:15-5:00pm

Grading: This course is graded based on your active participation. I may assign discussion posts and a few assignments on *Lumen Learning*. You will receive a S/U grading for this course. Your participation is assessed by your attendance to the class, participation in discussions, and being actively engaged, meaning having your cameras ON!

If you do not have access to a camera, please email me as soon as possible because a camera is necessary to take the final exam for MAT 123.

Please check Blackboard frequently. I will post all materials to Blackboard and post several important announcements throughout the semester.

This course is intended to help you! Please ask any questions that you may have throughout the semester!

Topics that we will cover this semester:

- Review of Algebra skills
- Linear functions
- Polynomials
- Right triangles
- Exponent Rules
- Solving a system of equations
- Rational function
- Graphing
- Quadratic equations

Student Accessibility Support Center Statement

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, 128 ECC Building, (631) 632-6748, or at sasc@stonybrook.edu. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Academic Integrity Statement

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty is required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty please refer to the academic judiciary website at http://www.stonybrook.edu/commcms/academic_integrity/index.html

Critical Incident Management

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of University Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.

Conduct

Stony Brook University expects students to maintain standards of personal integrity that are in harmony with the educational goals of the institution; to observe national, state, and local laws and University regulations; and to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.